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Inexpensive Labor Saving Poultry Appliances

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In the following pages are described and illustrated a number of practical, inexpensive poultry appliances designed to save labor and simplify the poultry keeper's work in caring for his flock. In perfecting these appliances, the aim has been (1) to keep the cost as low as possible; (2) to make them simple in design so that anyone with ordinary skill in handling a hammer and saw can readily construct them at home; and (3) to produce appliances that will work efficiently.

TRAPNESTS

Poultry keepers have come to realize more fully each year the great value of the trapnest in breeding for increased egg production, just as dairymen have learned to appreciate the value of the scales and Babcock tester in improving dairy herds. The purpose of the trapnest is not to determine how many eggs each hen in a flock lays in order to identify and cull out the unprofitable producers; low producers can be more economically culled out by well established methods of judging of the laying abilities of fowls on the basis of external physical indications. The purpose of the trapnest is (1) to determine definitely the laying performance of those birds in the flock possessing,

if possible, a promising pedigree and physical indications of being heavy layers (qualities which would make them desirable breeders), in order that the superior birds may be more accurately selected for future breeding; and (2) to fix the identity of each egg with the hen that laid it so that the pedigree records of individuals in the breeding flock may be preserved from generation to generation and utilized in making matings that will increase the laying qualities of the offspring.

California Trapnest No. 1.—This is a simple box nest costing very little more to build than an ordinary nest (fig. 1). The trapdoor is hinged at the top with four No. 111 screw eyes. The eyes of the two screws that are screwed into the wooden strip from which the trapdoor hangs are opened sufficiently to receive the eyes of the two which are screwed into the top of the trapdoor itself. This simple hinging device permits of unhooking and removing the trapdoors from the nest whenever it is desired to eliminate the trapping feature and use it as a plain nest.

To set the nest, the door is swung inward and held at the bottom by a wire hook *at just the right height so that when a hen enters the nest and slips under the door, her back will raise it up just enough to release the hook* and allow the door to swing quietly shut behind her. The door does not close with a bang, but slips slowly down the fowl's back and over her tail after the hook is released and as the hen goes farther into the nest. This hook (see fig. 1a) is made of a piece of No. 6 galvanized wire and can easily be made at home with a vise, a hammer, and a piece of steel rod over which to shape the eye of the hook.

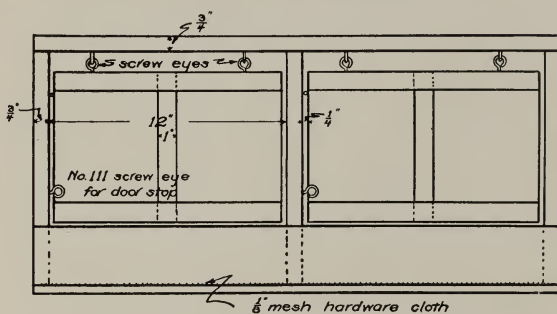
To release the hen, the door is pushed in and the hen is caught in the two extended hands as she comes out. The left hand of the operator is slipped under the breast of the hen with the fingers grasping both shanks at the hock, and the right hand is placed on her back with the spread fingers holding the wings to the body. The hen is then tucked under the left arm, while with the right hand the nest is reset and the egg removed. Holding the shanks up, the legband is then read and noted and the hen released. The legband should be placed with the figures upside down on the fowl's leg so that they can be easily read when the fowl is held in the position described.

When saving hatching eggs the hen number, pen number, and day of month are usually marked on the large end of the egg thus, 268/48/7, after releasing the hen. At other times the egg is simply credited to the hen on the record sheet hanging in the pen.*

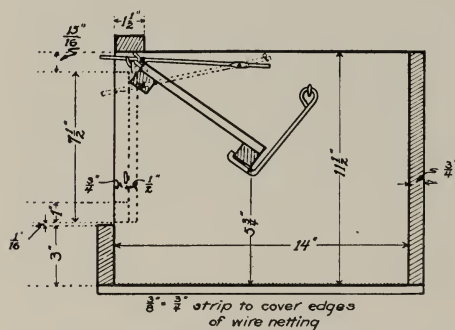
* A blank form of record sheet may be obtained on application to the Poultry Division of the University of California, Davis, California.



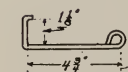
Fig. 1.—California trapnest No. 1.



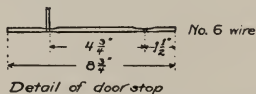
FRONT VIEW



CROSS SECTION



Detail of hook



Detail of door stop

Fig. 1a.—Working plans for California trapnest No. 1. The above measurement of $5\frac{3}{4}$ inches between bottom of nest and bottom of trapdoor when set is only approximate. Hook should hold door just high enough so that when a hen enters nest and passes under the trapdoor, her back will raise it high enough to release hook and allow door to swing quietly shut behind her. If door is hooked too high, hen will not trip it in entering nest.

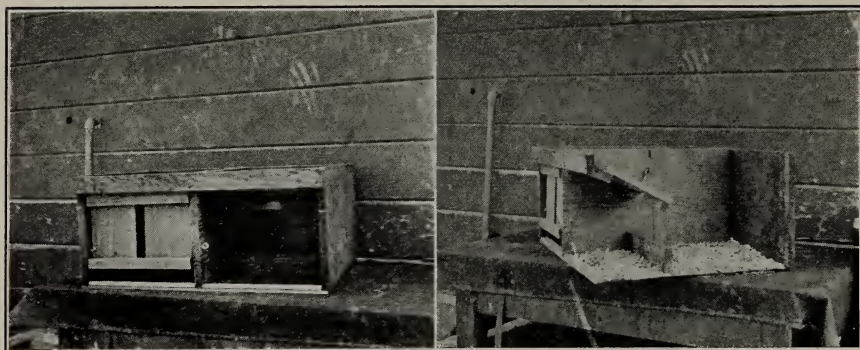


Fig. 2.—California trapnest No. 2.

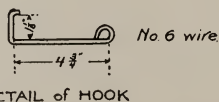
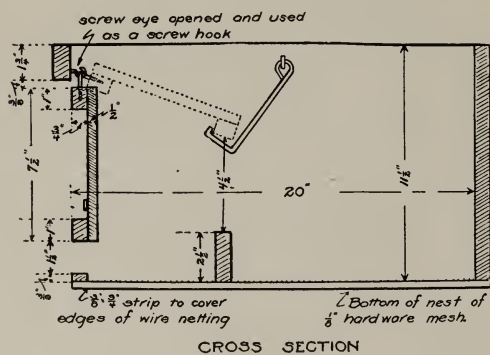
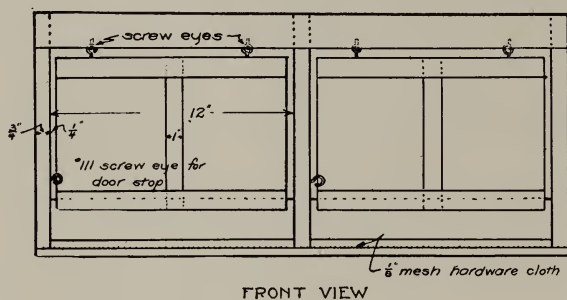


Fig. 2a.—Working plans for California trapnest No. 2.

As it is necessary to place a platform in front of this nest for the hen to jump upon in order to enter, it is possible for a hen to push in the trapdoor and enter the nest while it is being used by another hen. This can be prevented by using an inside stop which locks the trapdoor from the inside. This inside stop (fig. 1*a*) drops down when the trapdoor closes behind a hen entering the nest to lay and the piece

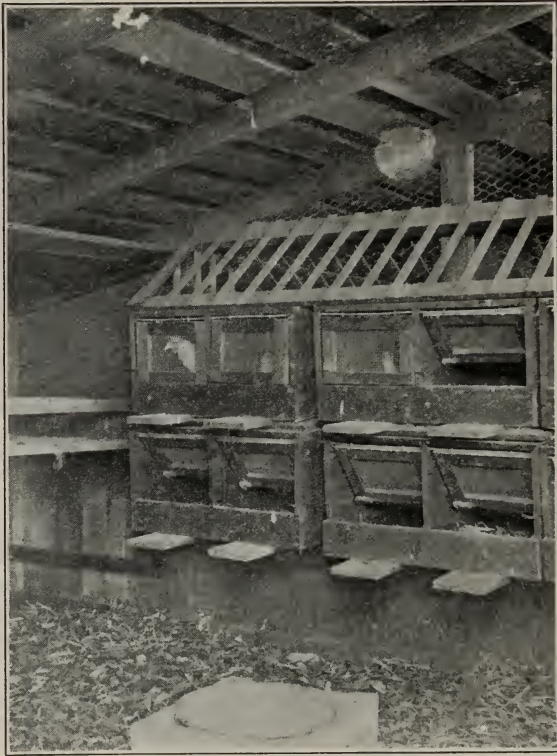


Fig. 3.—No. 1 trapnests in a double tier against the wall.
Note platforms in front of nests.

projecting at right angles holds the door closed. To open the door and release the hen, raise the front end of the stop as high as it will go and push the door in.

A number of years of experience with California No. 1 trapnests without inside door stops show that two hens will very seldom enter the same nest. The inside stop may, therefore, be omitted, if the occasional entry of two hens into the same nest is not objectionable, otherwise it should be used.

California Trapnest No. 2.—This nest is similar to trapnest No. 1, except that the platform placed in front for the hen to jump upon in order to enter the nest (figs. 2, 2a, 3, and 4) has been made a part of the trapnest). This makes the nest deeper from front to rear. By making the platform a part of the nest and moving the trapdoor forward to the front edge of this platform, no inside door stop is needed and the nest is made more roomy. Two hens cannot enter the same nest because the trapdoor, when closed, closes the platform as well as the nest proper.



Fig. 4.—No. 2 trapnests under the droppings board. Note absence of any platform boards in front of nests for hens to jump upon before entering. Instead they jump directly into front end of nest which serves as a platform.

The operation of the nest is exactly the same as that of the No. 1 nest. The hen is removed and the trapdoor set in the same way with both nests.

The No. 1 nest may be tiered on the wall as shown in figure 3 or placed under the droppings boards. The No. 2 nest is better suited for use under the droppings boards or on the wall where nests are not tiered, because it is intended that the hen shall jump directly into this nest from the floor. It can be used in tiers two nests high, however, if the upper tier is not placed too high. If the upper tier of nests is

too far from the floor for the hen to safely jump into, or if more than two tiers are used, a platform should be used in front of all nests above the lowest tier. With such a platform it is possible for two hens to enter the same nest, as explained in the discussion of the No. 1 nest on page 5, and inside door stops may have to be used on those nests with the platforms in front. Some poultry keepers use No. 2 nests for the bottom tier and No. 1 nests for the second tier. With this arrangement the projecting tops of the No. 2 nests serve as a front platform for the No. 1 nests above.

The trapdoor used with these nests is very simple to make and is both light and strong. The bottom cleat furnishes a quick operating hold for the wire hook; the top cleat is thick enough to hold the screw eyes tightly; the one inch center opening is not wide enough for a hen to put her head through while waiting to be released, yet permits the attendant to see into the nest.

The nest bottom is made of $\frac{1}{8}$ -inch mesh hardware cloth, which keeps the nest much more clean with less labor than where a wooden bottom is used. It also makes the nest cooler in summer and almost entirely eliminates losses on the nest from heat prostration. Galvanized wire window screen cloth can also be used, but it is not so durable and lasting.

The wire cloth bottom permits free circulation of air so that droppings dry very quickly. In scratching around preparatory to laying, each hen using the nest breaks up any dried droppings previously deposited, and these particles drop through the wire cloth. It is true that the nesting litter also breaks up and sifts through so that it has to be replenished more frequently than with wooden bottom nests, but the eggs are kept cleaner and the nests are practically self-cleaning. The labor saved in washing dirty eggs and the loss avoided in decreased returns on such eggs will more than pay for any additional cost of wire cloth for nest bottoms in a very short time.

PLAIN NESTS

Nest and Broody Coop Unit.—A very compact and effective nesting arrangement is illustrated in figures 5 and 5a. It consists of a light frame holding two tiers of nests and a broody coop. The broody coop is made of lath with one-inch mesh wire bottom. It rests on two supporting strips and is removable. A wood tray slides beneath the broody coop to catch the droppings which fall through the wire mesh bottom.

The nests are built in batteries of four to six nests each and the ends of each battery rest on supporting strips, which form slideways so that the batteries can be slid out and removed. There is a walkway in front of each tier of nests and a drop door in front of the walkway. This door not only closes the entire nesting compartment, providing a secluded, slightly darkened place for the hens, but gives ready access to the nests for collecting eggs and cleaning.

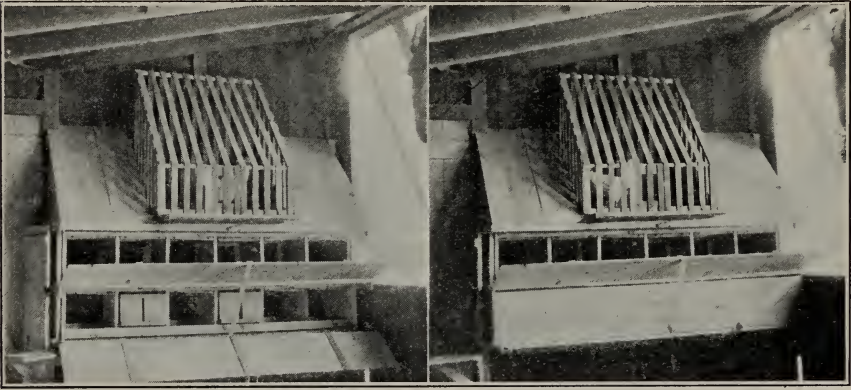


Fig. 5.—Nest and broody coop unit. A compact, convenient arrangement of nests and broody coop.

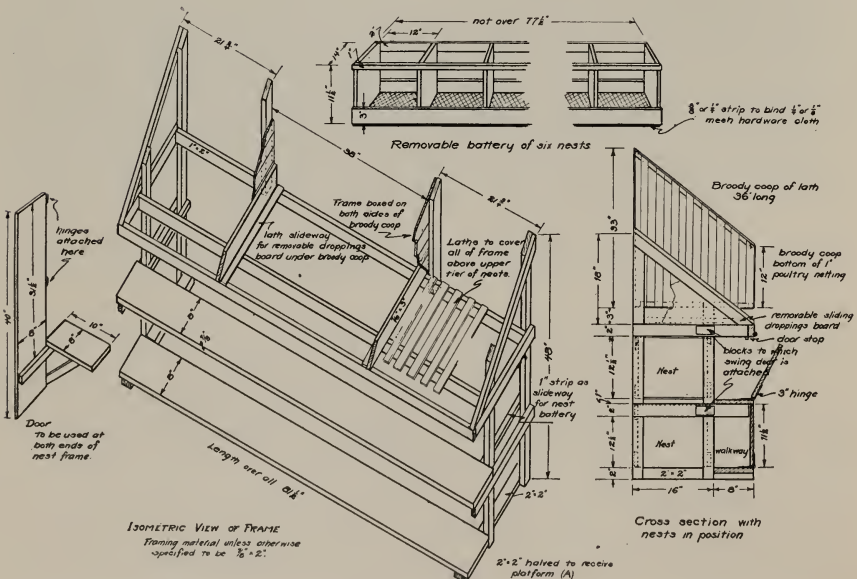


Fig. 5a.—Working plans for the construction of nest and broody coop unit.

The hens enter the walkway and gain access to the nests from one or both ends. In figure 5 only one end is left open, owing to the limited wall space. This end opening can be closed at night with a small door which folds back out of the way during the day and carries a small platform. The hens fly from the floor to this platform and then either enter the walkway leading to the lower tier of nests or fly on up to the walkway leading to the upper tier.

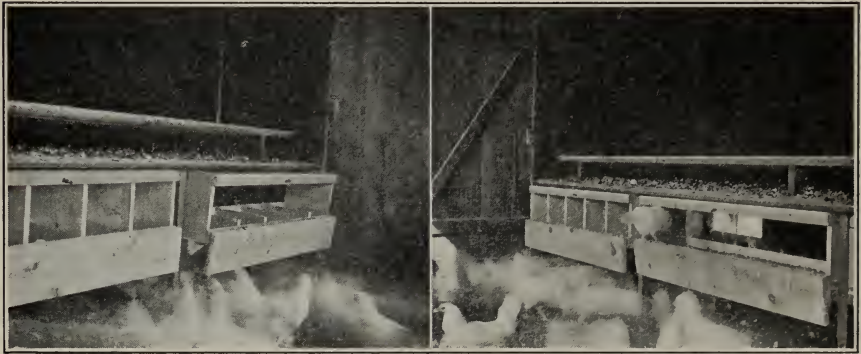


Fig. 6.—Nests under droppings board. Nest sections with high partitions, low partitions, and no partitions are shown.

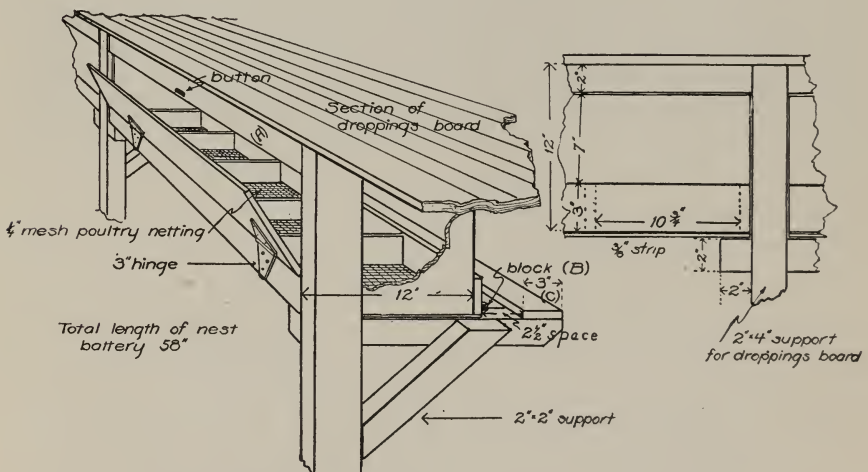


Fig. 6a.—Working plans for nests shown in figure 6.

These nests may be made into California No. 1 trapnests by attaching trapdoors and inside stops. The trapdoors, however, will have to be made one-half inch narrower from top to bottom than the door shown in figure 1a to fit the front opening of the nests used in this unit.

Nests under Droppings Boards.—Under the droppings boards is, perhaps, the most convenient location for nests because they are out of the way and easy to get at. Less material and carpenter work is also required to install them than is the case when placed on the walls of the house. Nests placed below the droppings board, however, not only shut out some light from the rear part of the floor but also prevent the poultryman from observing the area under the droppings board without stooping.

The nests shown in figure 6 are built in sections or batteries of five nests each, but the number of nests per section can be varied to fit the particular poultry house being equipped. The ends of each nest section rest on strips which serve as a slideway permitting the nests to slide in and out. These strips are supported by brackets fastened to the front legs of the droppings board, as indicated in figure 6a.

Nest sections are shown in figure 6 with high partitions (12 inches), with low partitions (3 inches), and with no partitions at all. Careful tests were made of these three types of nests by installing them side by side in each pen of birds used. It was found that the hens liked the nests with high partitions best and those with no partitions least. This was indicated by the fact that even during the spring months of heavy laying, most of the eggs were laid in the nests with high partitions, some few in the nests with low partitions, and almost none in the nests with no partitions. In order to eliminate the part that the position of any section of nests in relation to other sections might play in determining the selection made by the hens, the positions of the different sections were changed from time to time. Hens seemed to prefer the greater seclusion afforded by the high partitions.

Nests on Front Wall.—Nests can also be placed on the front wall of the poultry house, as shown in figures 7 and 7a. The amount of wall space below the open front in a well designed California laying house, however, is not sufficient to permit of more than one tier of nests if they are to be kept high enough from the floor. With only one tier, so much wall space may be needed to provide enough nests for the number of hens the pen will properly care for that there is insufficient wall space for other equipment. The item of wall space for equipment should not be overlooked in designing a poultry house and the pieces of equipment which go into it.

It is recommended that the bottoms of all nests be made of $\frac{1}{8}$ -inch mesh hardware cloth or galvanized wire window screen cloth. As

explained on page 7, a wire mesh bottom permits free circulation of air in the nest, which keeps it cooler, prevents losses from heat prostration in summer, and also makes the nest practically self-cleaning.



Fig. 7.—Nests on front wall of open front house.

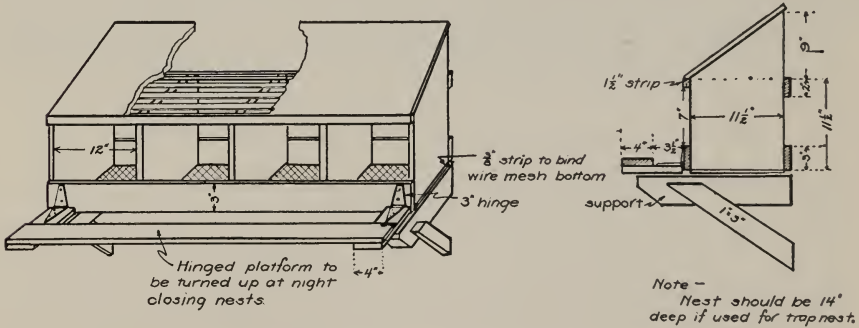


Fig. 7a.—Working plans for wall nests shown in figure 7.

HOPPERS

Dry Mash Hoppers.—The type of dry mash hopper shown in figures 8, 8a and 8b is preferred by many poultrymen because the fowls can always get to the mash as long as there is any in the hopper.

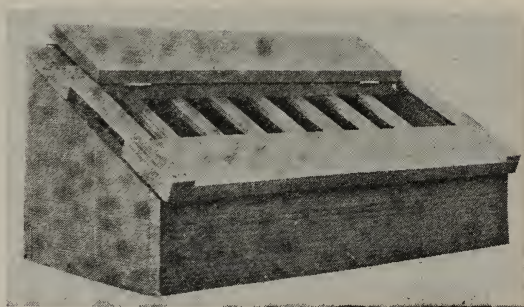
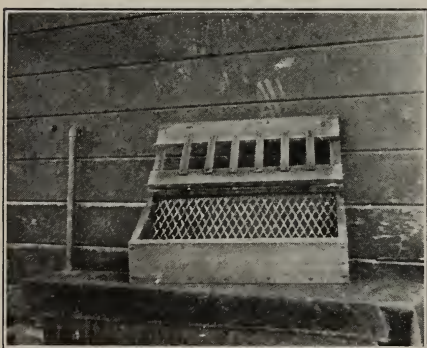
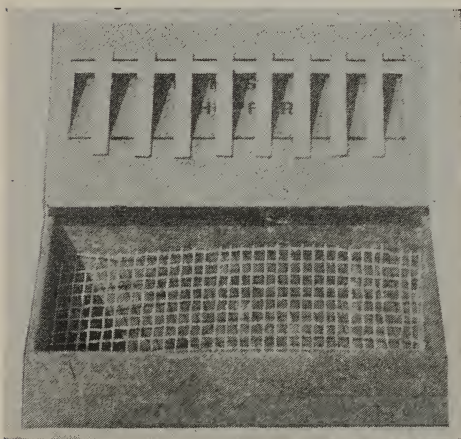


Fig. 8.—Four views of California dry mash hopper. The wire mesh grids shown in the two views with cover raised are laid on top of the mash to prevent the fowls from hooking it out and wasting it.

A self-feeding hopper, on the other hand, may be full of mash and the fowls will be unable to get it because the throat clogs and no more will feed down after that in the trough has been eaten. This hopper is non-wasting if filled not more than three-fourths full because the grid which lies on top of the mash prevents the fowls from throwing it out with their bills. Each two foot length will hold a week's supply of mash for 35 hens and it may be made any length desired. The grid may be made of heavy steel expanded metal lath with diamond-

shaped openings or $\frac{3}{4}$ -inch mesh hardware cloth. The expanded metal lath weighing approximately 12 oz. per square foot and with diamond-shaped openings, or mesh measuring $\frac{3}{4}$ inch the short way and $1\frac{1}{2}$ inches the long way, inside measurements, has proven the most durable and efficient.

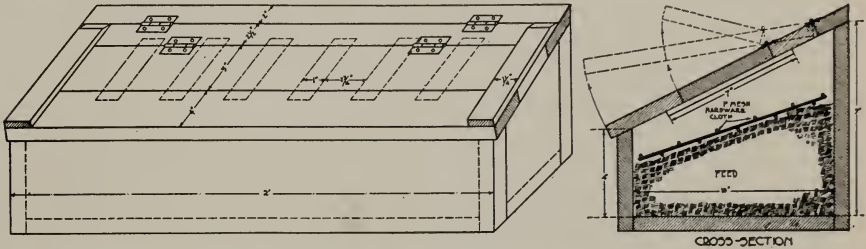


Fig. 8a.—Working plans for California dry mash hopper.



Fig. 8b.—California dry mash hopper in use. Note platform to keep hoppers off the floor so that they will not be scratched full of dirt and litter.

Wall Hopper.—The most skillfully designed self-feeding mash hoppers will clog up, and have to be shaken or poked with a stick once or twice a day to keep them feeding properly. Unless the throat and trough measurements are correct, such hoppers are also very wasteful of feed because the troughs fill too full and the birds throw the feed out in picking it over. They have the advantage over most other types of hoppers, however, of holding a large supply of feed and not having to be filled so frequently.



Fig. 9.—Wall type, self-feeding dry mash hopper in use on partition wall.

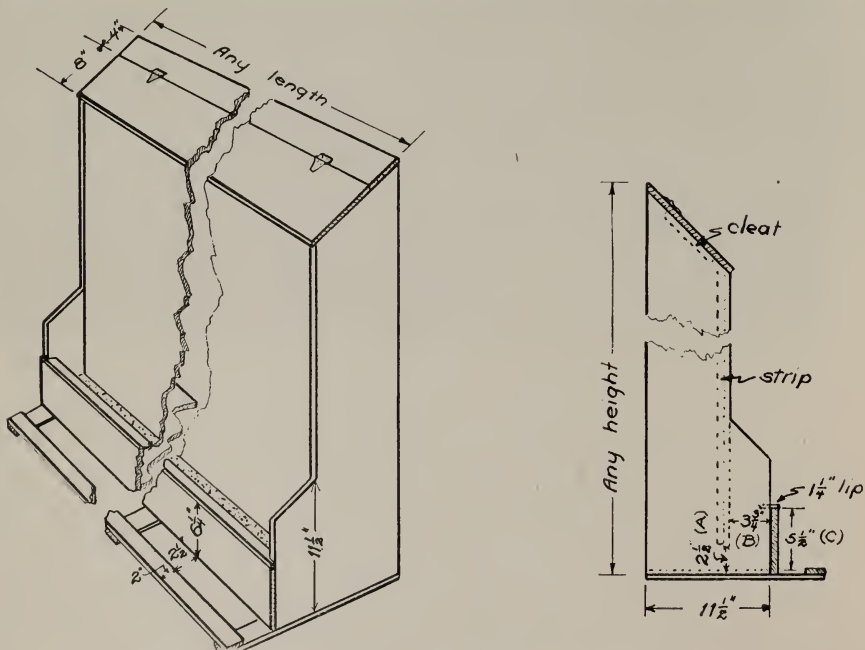


Fig. 9a.—Working plan for wall hopper shown in figure 9.

The self-feeding wall hopper illustrated in figures 9 and 9a will hold a large amount of feed and the trough has been carefully designed to prevent waste. This hopper can be built any height and length desired, but if built too high it is difficult to lift sacks of mash to the top and empty them.



Fig. 10.—Self-feeding dry mash and green feed hoppers designed to slide under droppings board. Mash hopper at left; green feed hopper at right.

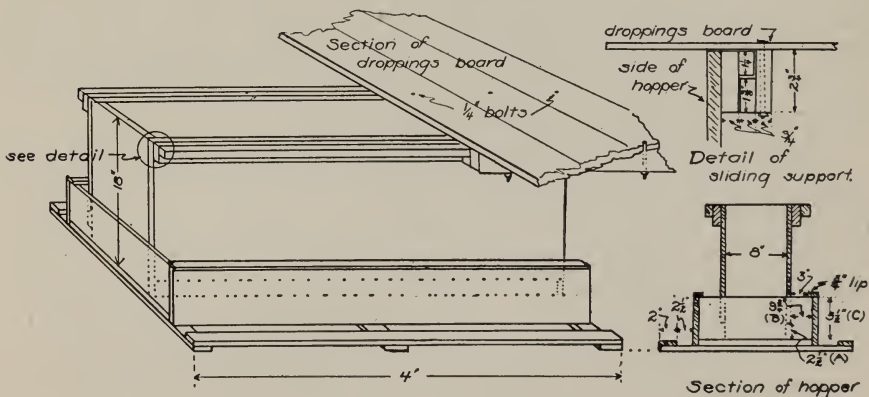


Fig. 10a.—Plans for the construction of mash hopper shown in figure 10.

feed on the droppings board, the hopper is easily filled without undue strain on it. All parts of the hopper except the ends should be made of $\frac{1}{2}$ -inch lumber to make it light in weight.



Fig. 12.—Wall type of green feed hopper.

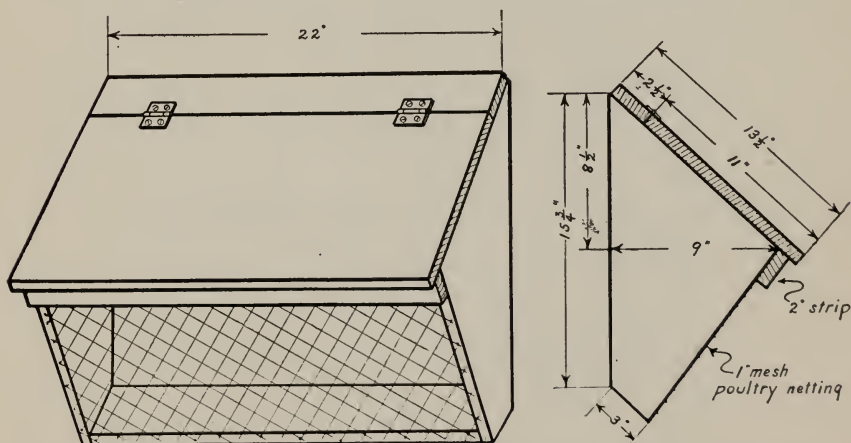


Fig. 12a.—Plans for the construction of the wall type of green feed hopper.

Green Feed Hoppers.—Fresh, tender greens should be fed to poultry of all ages and the birds given all they will eat daily. Allowing chickens to range over growing forage crops is much more beneficial than cutting and feeding green stuff to the fowls, but if the latter method must be used, the most efficient way to handle it is to cut it very fine in a feed cutter and feed it in a green feed hopper or rack. The use of such a hopper greatly lessens waste because it holds the fresh material together so that it remains in an unwilted and succulent condition for a much longer time than it would if it were thrown on the ground and scattered about by the hens.

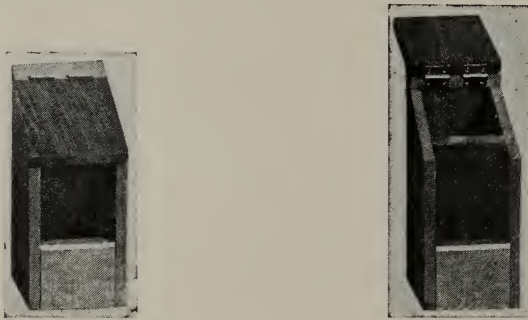


Fig. 13.—Self-feeding grit and shell hopper.

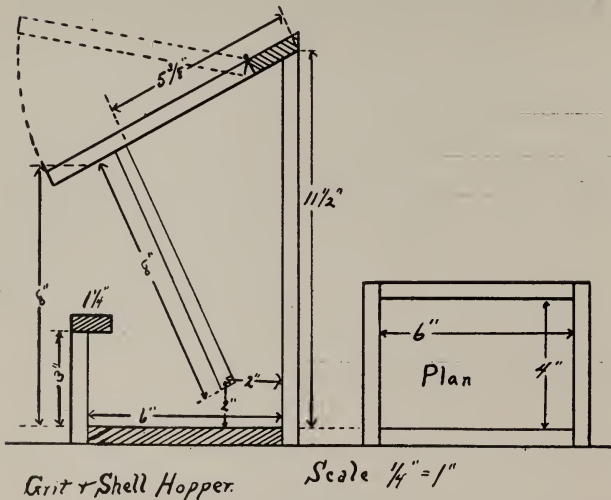


Fig. 13a.—Working plans for grit and shell hopper.

The hopper illustrated in figures 12 and 12*a* is made to hang on the wall. The one shown in figures 10 and 11 slides under the droppings board and feeds from both sides, so that the same length of hopper has twice the feeding capacity of the wall hopper. Under the droppings board is a very convenient, out-of-the-way place for a green feed hopper when it is desirable to save wall space for nests.



Fig. 14.—Chick mash hopper. A hopper 3 feet long, 5 inches wide, and $1\frac{1}{2}$ inches deep, inside dimensions, is a very convenient size.

Grit and Shell Hopper.—The hopper illustrated in figures 13 and 13*a* is a very satisfactory hopper for feeding shell and grit because these materials feed easily and do not clog in the throat of the hopper as do ground mill feeds. If a fine grade of oyster shell is used, it may clog slightly and the poultry keeper should, therefore, look at the shell hoppers occasionally to see that they are feeding freely.

Chick Hopper.—Young chicks require a light, shallow hopper which they can easily feed from, is readily cleaned, and prevents waste. The hopper shown in figure 14 answers the purpose in every way and is simple and inexpensive to construct. It consists merely of a shallow tray in which the grain or dry mash mixture is placed. A grid made of $\frac{1}{2}$ -inch mesh hardware cloth cut $\frac{1}{8}$ inch smaller all

around than the inside dimensions of the hopper is laid on top of the feed to prevent the chicks from scratching it out on the floor. The grid is bound with a narrow edging of galvanized iron to stiffen it and cover up the raw edges.



Fig. 15.—Catching hook in use.

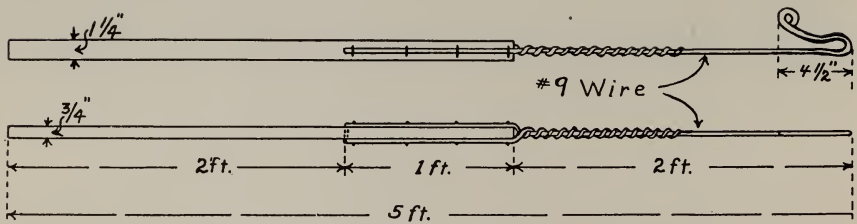


Fig. 15a.—Method of constructing a catching hook.

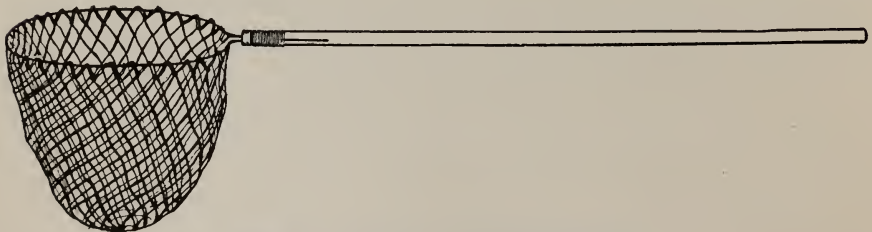


Fig. 15b.—Net for catching chickens.

Only as much grain or dry mash should be put into the trays each day* as will be consumed that day. The trays can then be scraped out clean each day after being used. These trays are used at the Station poultry plant from the time the chicks are hatched until they are old enough to use the large mash hoppers.

CATCHING DEVICES

Catching Hook.—In figures 15 and 15a is shown a catching hook which is very convenient in catching up birds for examination or for removal from a pen. The hook itself should not be so tightly closed as to pinch the fowl's shank, and care should be exercised not to jerk the fowl too hard in hooking it. When the hook is carelessly used, there is danger of bruising the fowl's shank or even breaking it. If used with normal care and judgment, however, a catching hook will be found almost indispensable in the poultry yards. One should be kept hanging on a nail in each pen, where it will be quickly available in catching sick fowls as soon as discovered, or other birds that it may be desirable to remove from the pen. Anyone can make these hooks at little expense.

Catching Net.—A catching net (fig. 15b) serves the same purpose as a catching hook and some poultrymen find it more convenient to use than the hook. These nets can be purchased at poultry supply houses or made at home with a stick, some No. 6 wire, and a cord net. The net part can be woven at home or one can be obtained at a poultry or fishing supply house.

Catching Coop.—A catching coop is an indispensable, labor saving appliance when treating fowls for body lice, vaccinating for chicken pox, grading and culling, transferring from pen to pen, or whenever considerable numbers of chickens have to be handled or moved.

In using the coop, the end with the sliding door (fig. 16, 16a, and 16b) is pushed tightly against the chicken exit, a coop full of chickens is run in, and the sliding door is closed. If the birds are to be moved the coop is then loaded on a wagon or carried to the place desired. In handling the fowls individually, the poultryman sits on the coop and withdraws the birds one at a time through one or the other of the hinged doors in the top.

* For detailed information on the subject of poultry feeding, the reader is referred to Circular No. 242 of the California Agricultural Experiment Station.



Fig. 16.—Catching coop partially filled with chickens.

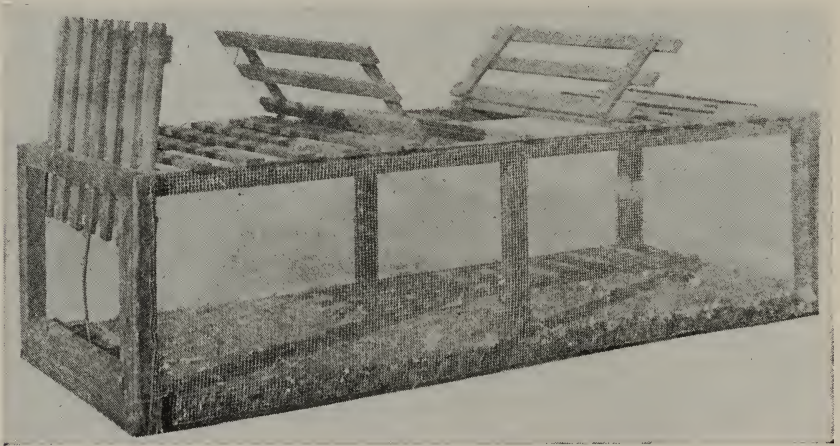
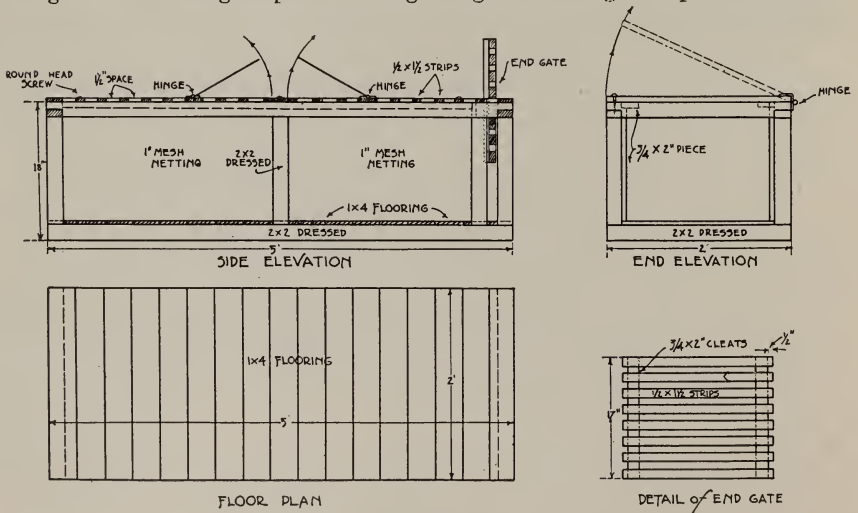


Fig. 16a.—Catching coop with sliding end gate and hinged trapdoors raised.



CATCHING COOP

Fig. 16b.—Working plans for catching coop.

WATERING DEVICES

The California poultry keeper is fortunate in being able to pipe running water to every chicken house and yard without danger of the pipes freezing and bursting in winter. It is possible to provide automatically a continuous supply of fresh water every month in the year, and a great many ingenious watering devices are being used for this purpose. In figure 17 is illustrated a simple, continuous drip waterer which was designed by this Station a number of years ago and has proven very popular. The hose style gas cock drips slowly

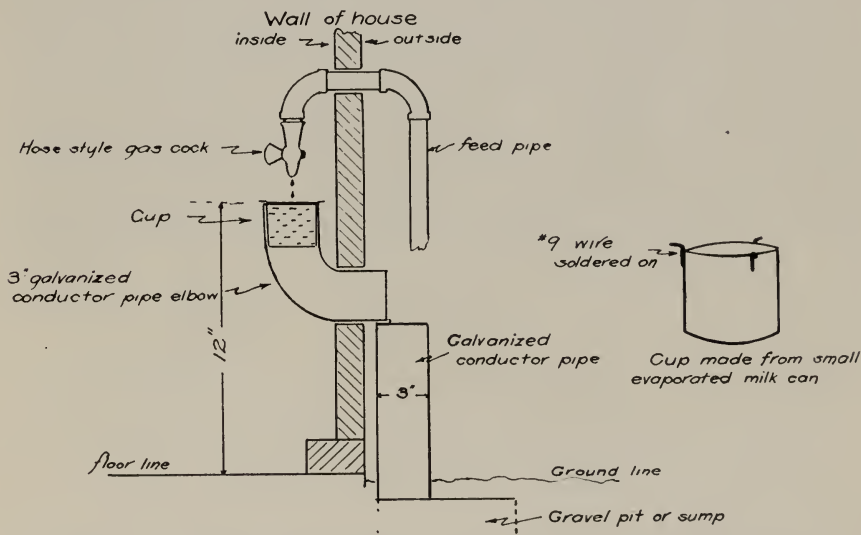


Fig. 17.—A simple, continuous drip watering device using a small size evaporated milk can as the drinking cup.

into the small cup suspended by three lugs in the upper end of a plain three-inch galvanized conductor or rain pipe elbow. The overflow from this cup runs through the elbow into a conductor pipe on the outside of the house and is carried down into a hole in the ground about 18 inches square and two feet deep, which is partially filled with coarse rock or gravel. The cup is made from a small size, evaporated milk can.

Another style of drip waterer that is easily made at home is shown in figure 18. The water drips slowly into a drinking vessel made from a 2½ size tin can, such as is used for tomatoes or canned fruits, and the overflow is carried through the overflow spout into a conductor pipe on the outside wall of the house and then into the ground as in the case of the drip waterer described in the previous paragraph.

In one side of the can near the top is cut a neat round hole to receive an overflow spout. This spout, if made of tin, is soldered on to the can, or a short piece of $\frac{1}{2}$ -inch water pipe may be used. If a water pipe is used as a spout, a long thread is cut on one end, a locknut is screwed on this end with a wrench as far as it will go, a gasket cut from a piece of old automobile inner tube is slipped against the locknut, the threaded end is inserted in the hole cut in the can and a second locknut is screwed on and tightened so as to form a water-tight connection between the can and the pipe. The locknuts can be made of $\frac{1}{2}$ -inch pipe couplings cut into three pieces with a hack saw.

In drinking from water vessels, chickens will slop a certain amount

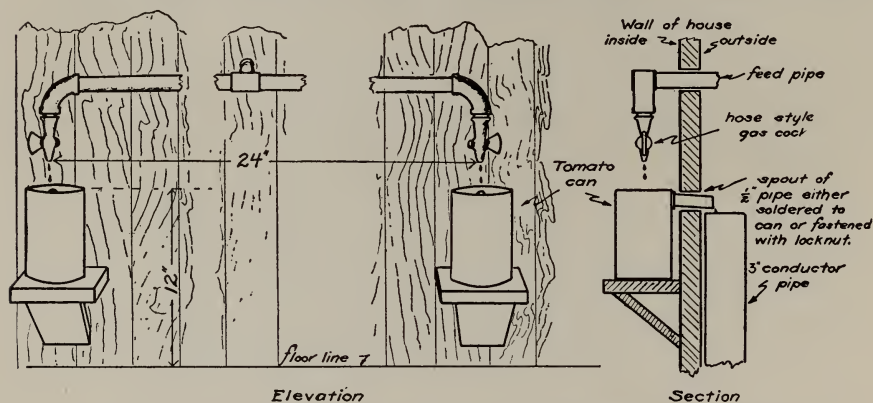


Fig. 18.—Another style of continuous drip waterer, using empty vegetable cans as drinking vessels.

and keep the vicinity of the water vessel continually wet, whether a trough, a pan, or a drip cup be used. This constantly wet area around the water vessel is not only unsightly but any woodwork included in this wet area may be caused to rot out rather quickly. Any litter that becomes wet will be mixed up with the dry litter by the hens in scratching for grain and the moisture slowly distributed through and absorbed by the dry litter so that it will become damp and must be cleaned more often in winter. In dry summer weather, the stirring around of the dampened litter will aid in drying it.

To eliminate the unsightly appearance caused by the slopping of water by the chickens and any harm it may do, the watering arrangement shown in figure 19 has been designed. An especially constructed, galvanized iron pan or catch basin, 18 inches square, is supported in a wooden frame fastened to the front wall of the hen house, 24 inches above the floor (fig. 19a). A 1-inch mesh wire netting or latticed lath cover rests on top of this pan and supports a shallow water vessel.

The water drips from the hose style gas cock into the water vessel and the overflow from this pan, together with the water slopped around by the hens, is caught in the large pan or catch basin below. It is then carried out of the house and into a gravel pit in the ground. The large drain pan prevents the floor and woodwork in the vicinity of the water vessel from becoming wet.



Fig. 19.—Watering device designed to prevent the slopping of water by the hens.

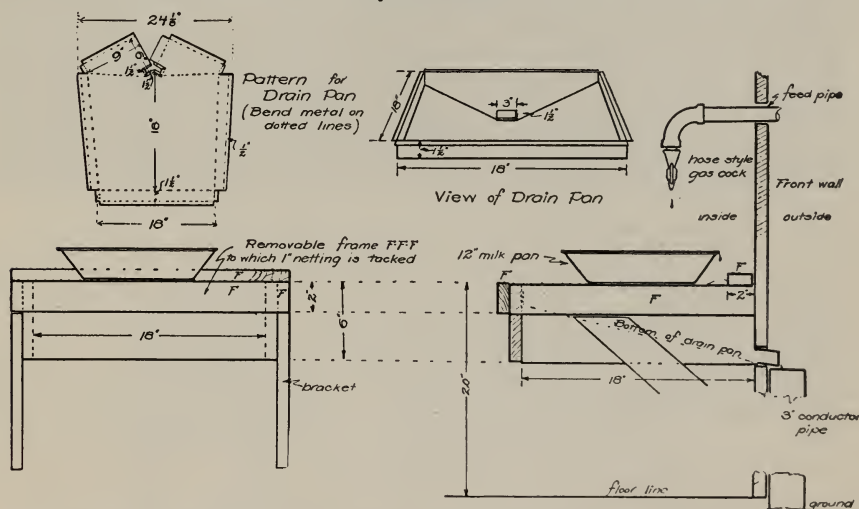


Fig. 19a.—Method of constructing waterer shown in use in figure 19.

An automatic faucet and a small bucket suspended from it may be substituted for the drip cock and water pan if desired. This automatic faucet is operated by the weight of the bucket of water and can be adjusted for different weights. When the amount of water in the bucket falls below the desired level, a spring opens the faucet and more water runs into the bucket until the weight of this added water

is sufficient to close the faucet and again raise the water level to the desired height. In using a bucket a hole should be left in the center of the wire netting or latticed lath cover for the pail to hang in. If the pail rests on top of the cover, it will be too high for the fowls to drink out of comfortably.



Fig. 20.—Two compartment fattening crate.

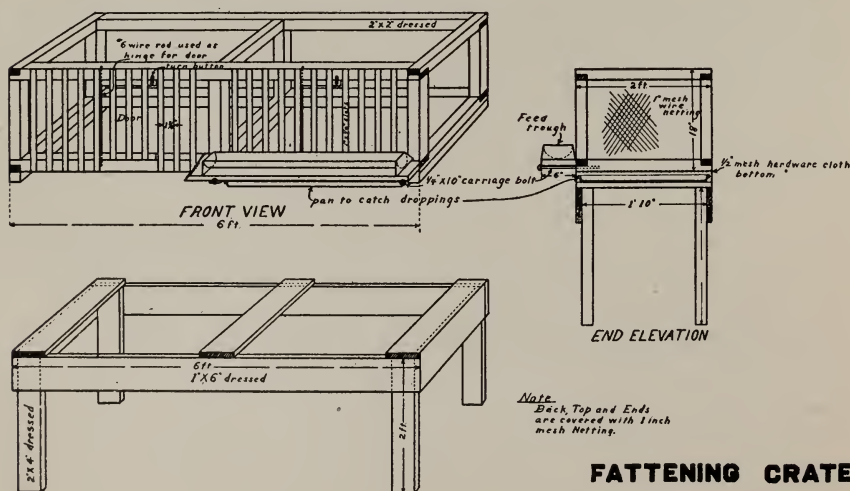


Fig. 20a.—Working plans of two compartment fattening crate.

FATTENING CRATE

In crate fattening the birds are shut up in crates, each compartment of which is 3 feet long, 2 feet wide, and 18 inches high. Sometimes they are made up in two compartment sections as shown in figures 20 and 20a, or they may be made in much longer sections. The crates may be covered on all sides with lath, or the lath may be used in front with the other sides covered with 1-inch netting. The strips covering the front should be placed vertically so that the fowls can poke their heads through and eat out of the trough in front. The strips are spaced $1\frac{1}{2}$ inches to $1\frac{3}{4}$ inches apart for half grown fowls, such as broilers and fryers, and 2 inches apart for mature fowls. Small market stock of the lighter breeds, such as broilers and small frys, can often squeeze through strips 2 inches apart. While slats may be used for the bottom, $\frac{1}{2}$ -inch hardware cloth is much more sanitary, much easier to keep clean, and costs but a fraction more. The crates are usually placed two and three deep in the fattening house and a pan 1 inch deep and of the same size as the bottom of each compartment is placed directly underneath every compartment to catch the droppings which fall through. These pans can be pulled out and cleaned every day without disturbing the birds. This arrangement keeps the coops clean and sanitary and the birds need not be disturbed from the time they are put in till they are fat enough for market, the cleaning and feeding all being done from the outside.

The feed troughs can be made from ordinary 5-inch roll rim galvanized iron roof gutter cut to proper length and with ends soldered on. The local tinsmith will make such troughs at small cost.

Figure 20 illustrates a two-compartment, portable crate with feed troughs in position and one of the pans for catching the droppings partly pulled out. In figure 20a the methods of construction are shown in detail.

SUPPLY CAN

If a poultry keeper has a number of pens of fowls to feed and carries a big pail of grain from pen to pen, he is not only performing labor daily that could just as well be done once a week and with a wheelbarrow or horse and wagon, but at the same time is wasting much valuable time unless he can gather the eggs and do the feeding on the same trip. By having in each pen a supply can large enough to hold a week's supply of grain for that pen and a dry mash hopper large enough to hold a week's supply of mash, the mash hoppers and supply

cans need be filled only once a week and the feed can be hauled in a wagon or cart. The poultryman can then walk from pen to pen each morning with his hands free for other things and scatter the right amount of grain to the fowls in each pen from the supply can in that pen. At night he can feed and gather the eggs on the same trip.

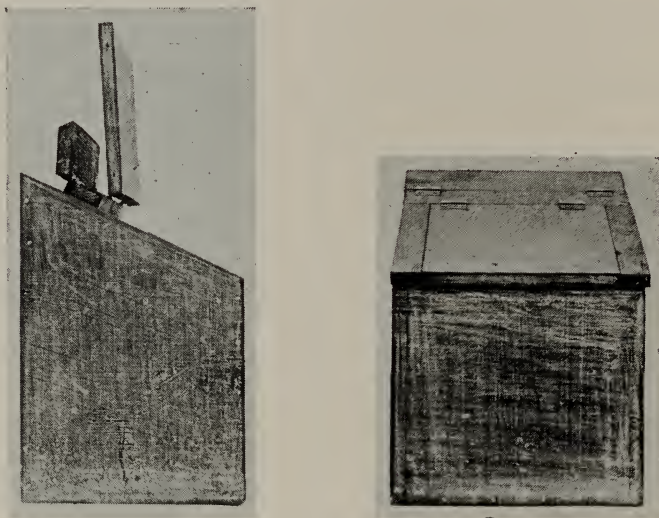


Fig. 21.—Supply can for grain or mash.

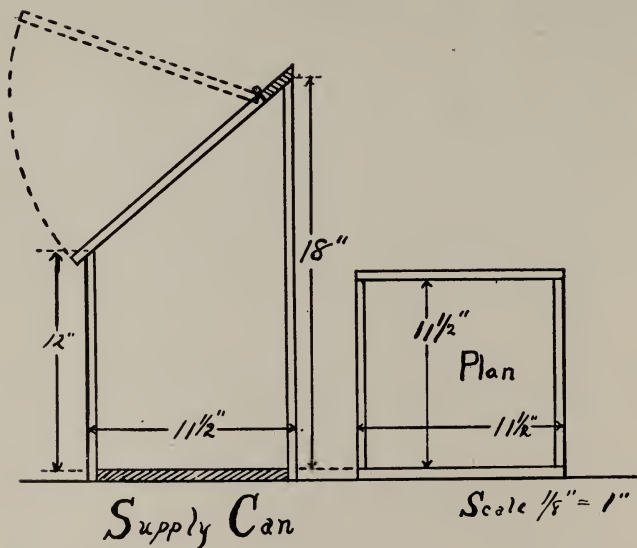


Fig. 21a.—Plan showing construction of supply can. In figure 20, two covers are shown. The small cover at the top makes it easier to pour feed out of the can. It may be made with one or two covers as desired.

The supply can illustrated in figures 21 and 21*a* may be made any size desired, and has a slanting top that fowls cannot perch upon. For small pens of fowls it can be built separately and hung on the wall. For large pens of fowls it may be built in and arranged so that it can be filled, if desired, from the outside. Galvanized iron or wooden barrels also make good supply cans.

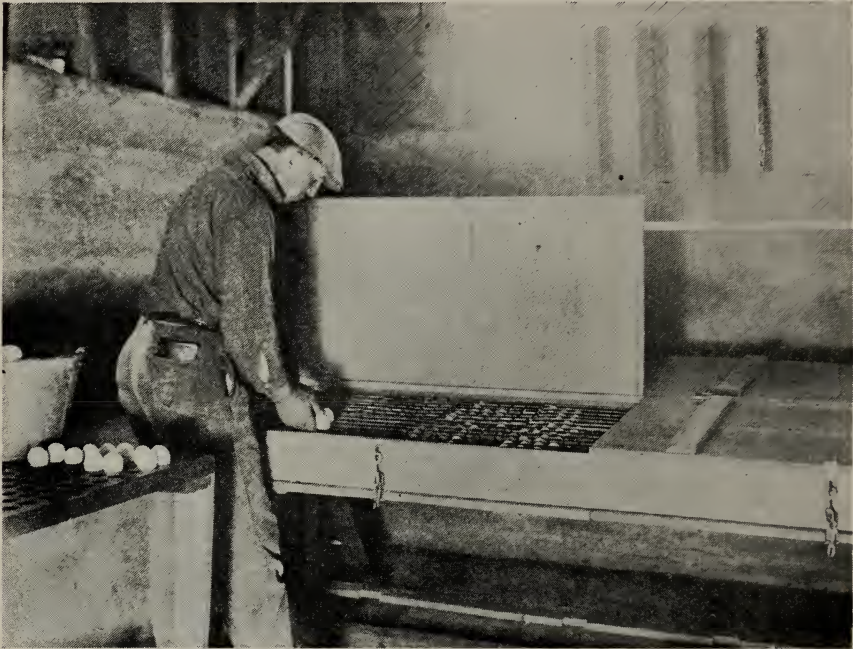
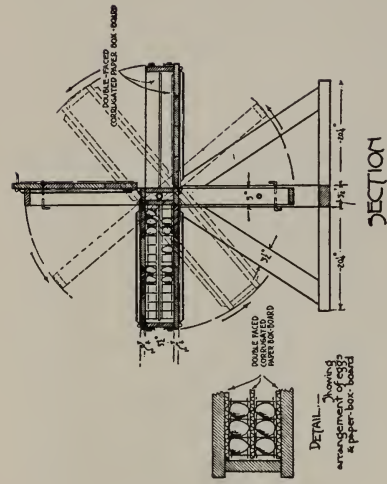


Fig. 22.—Hatching egg cabinet (modified Maine cabinet).

Should it be desirable to know the amount of feed consumed from week to week by certain pens, the amount of feed put in the supply can and mash hopper at the beginning of the week, say Monday morning after the morning feed, can be weighed in and the amount left at the end of the week (Monday morning after the morning feed) can be weighed back before weighing in a new supply. In this way accurate records can be kept of the feed consumption per pen or flock and of the relative consumption of grain and mash.

HATCHING EGG CABINET

In figure 22 is shown a labor-saving egg-turning cabinet for hatching eggs. When a great many eggs are set each season and they must all be turned by hand while they are being saved for the incubators,



HATCHING EGG CABINET

CAPACITY— 192 DOZENS EGGS

SCALE—1"

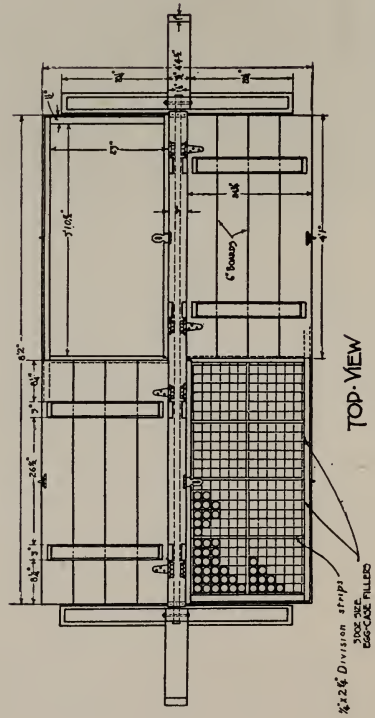


Fig. 22a.—Working plans of hatching egg cabinet, showing construction in detail.

considerable time is required each day to turn them. With the device illustrated, over two thousand eggs can be turned at the same time by simply revolving the table on its axle. As can be seen from the illustrations, the table is divided into eight compartments, each of which contains eight common egg case fillers. The fillers in each compartment are separated and held in place by $\frac{1}{4}$ -inch by $2\frac{1}{4}$ -inch strips notched to fit together where they intersect (fig. 22a). Each

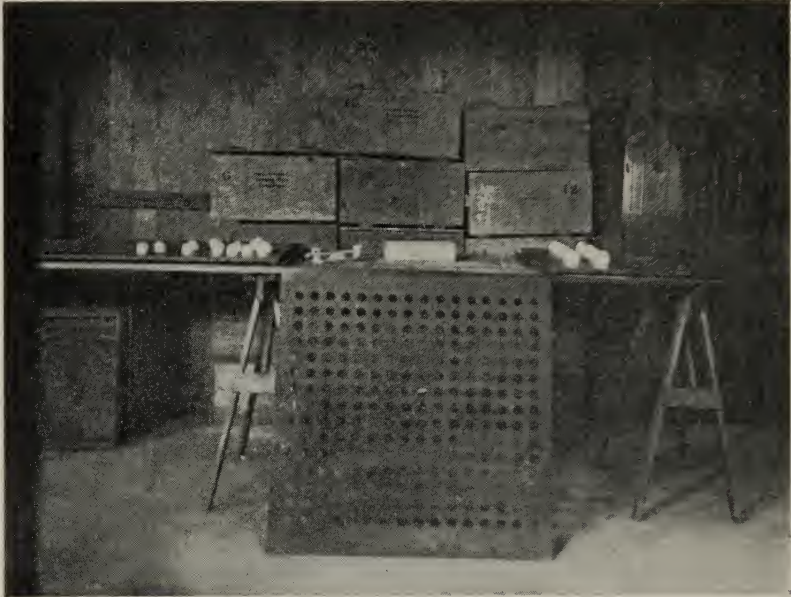


Fig. 23.—Egg sorting table. The sections perforated with holes to receive the eggs being sorted rest on cleats nailed to the table top proper and can be lifted off for cleaning.

compartment is, therefore, divided into eight smaller divisions, each of which contains one three-dozen size egg case filler. By having the table divided up in this way into unit sections each of three dozen capacity, it is very easy to keep eggs from special matings or special pens of breeders separate while being saved.

Double faced corrugated cardboard is used to line the inside of the table and as partition walls between the upper and lower compartments. Ordinary harness snaps are used to fasten the covers when shut. Before turning, the operator should be certain that every cover is firmly fastened.

EGG SORTING TABLE

In sorting eggs, especially for incubation, it is often convenient to have a table on which the eggs will stay where put without danger of rolling around or falling on the floor. The table shown in figures 23 and 24 is one that has been especially designed for this purpose. Persons who are doing trapnesting, pedigree breeding, keeping pen records of breeding stock as a substitute for trapnesting, etc., will find such a table very useful in systematically arranging and recording eggs for the incubator.

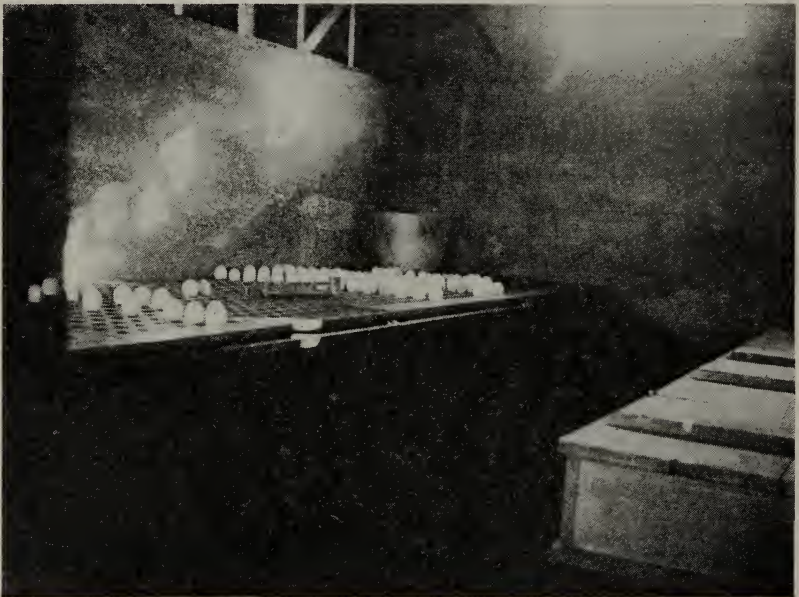


Fig. 24.—Corner of an egg room showing sorting table, egg scales, and hatching egg cabinet.

The authors wish to acknowledge their indebtedness to Professor W. E. Lloyd of the Division of Poultry Husbandry for much helpful assistance; to Mr. P. R. Lyding, Poultry Advisor, Sacramento Suburban Fruit Lands Company, for his permission to include a number of features of the Lyding nest and broody coop in the nest and broody coop unit described in this bulletin, and to those poultry keepers throughout the state who have consciously or unconsciously been of assistance to the authors in perfecting the appliances described.